

**REMARKS**

Claims 133-139 and 152-159 are currently pending in the Application. Claim 153 has been amended. Support for the amendments to claim 153 may be found, for example, in the specification at paragraphs 68, 91, 85, 116, 161, 167, 171 and 188. Accordingly, no new matter has been added to the application by the foregoing amendment.

References made herein to the "Specification" refer to the Substitute Specification submitted with the Declaration of Douglas J. Ryder on July 25, 2003. Where appropriate, citations are made with respect to specific paragraph numbers of the Substitute Specification.

**Examiner Interview**

Applicants and the undersigned thank Examiner Rhetta for the courtesies extended during a phone interview conducted on March 6, 2008, to discuss the present application and Office Action. During the interview, the prior art of record, Applicants' reasons as to why the pending claims overcome the Examiner's prior art rejections and how such claims are adequately supported by the specification were discussed.

Although no formal resolution was reached during the Interview, the Examiner encouraged Applicants to submit a written paper detailing the arguments presented during the Interview. Thus Applicants are submitting herewith amendments and arguments discussed with the Examiner for formal consideration.

**Claim Rejection - § 112, first paragraph**

The Examiner has rejected claims 153-159 under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. In particular, the Examiner contends that the phrase, "which incorporates at least two types of analysis selected from the group consisting of exploratory problem-solving, self-learning, discovery, experiments, trial and error, inferences, educated guesses, market studies, human knowledge and experience," as recited in independent claim 153 is not adequately

described in the specification to convey that Applicants had possession of the claimed subject matter.

Although not necessarily agreeing with the Examiner, independent claim 153 has been amended such that it no longer recites this feature. Applicants respectfully call the Examiner's attention to paragraph 188 of the specification, to exemplify how independent claim 153, as amended, meets the written description requirement. Paragraph 188 states that, "the heuristic rules can include any set of logic tests, statistical estimates, or market studies that provide the basis for better estimating the demographics of consumer 2000 based on their purchases." Claim 153 states that heuristic rules are developed based on "logic tests, statistical estimates, self-learning, experiments, market studies, human knowledge and experience." This claim parallels paragraph 188 from above, thereby it is explicitly taught in the specification. Accordingly, the Examiner's rejection has been overcome. The Examiner rejected the corresponding dependent claims on § 112 based solely on their dependence on claim 153. Therefore, applicants respectfully submit that the independent claims, and all claims dependent thereon are properly supported by the specification.

The Examiner has rejected claims 153-159 under 35 U.S.C. § 112, first paragraph for failing to satisfy the enablement requirement. The Examiner contends that a heuristic process "which incorporates at least two types of analysis selected from the group consisting of exploratory problem-solving, self-learning, discovery, experiments, trial and error, inferences, educated guesses, market studies, human knowledge and experiences," is not "described in the specification in such a way as to enable one skilled in the art to ... make and/or use the invention."

As amended, independent claim 153 recites a heuristic process "which incorporates at least two types of analysis selected from the group consisting of logic tests, statistical estimates, self-learning, experiments, market studies, human knowledge and experience." The specification states, at paragraph 188, that "the heuristic rules can include any set of logic tests, statistical estimates, or market studies that provide the basis for better estimating the demographics of consumer 2000 based on their purchases."

Additionally, the ordinary meaning of the term “heuristic” is “involving or serving as an aid to learning, discover or problem solving by experimental and esp. trial-and error methods; *also*: of or relating to problem-solving techniques that utilize self-educating techniques (as the evaluation of feedback) to improve performance” (*Webster’s New Collegiate Dictionary*, 9<sup>th</sup> ed.). Thus, one skilled in the art and familiar with heuristic rules as defined above would understand how to use heuristic rules “which incorporates at least two types of analysis selected from the group consisting of logic tests, statistical estimates, self-learning, experiments, market studies, human knowledge and experience.” Therefore, one skilled in the art would be able to “make and/or use the invention” as required under § 112.

Reconsideration and withdrawal of the Examiner’s 112, first paragraph, rejections are respectfully requested.

#### **Response to the Examiner’s Arguments**

In responding to Applicants’ arguments, the Examiner first argues that there is “no indication that Hendricks uses ‘collaborative filtering.’” However, the Examiner fails to provide any explanation as to how Applicants mischaracterized Hendricks. Regardless, Applicants’ overarching point is that Hendricks does not teach the development or application of predefined heuristic rules. This is because the process outlined in Hendricks of generating a simulated profile using an algorithm that analyzes access history (see Hendricks column 20, lines 35-48) is NOT the same as the application of a predefined heuristic rules. Therefore, the teachings of Hendricks do not include rules “involving or serving to aid to learning, discovery or problem solving by experimental and esp. trial-and error methods”. (Heuristic Rules as defined in *Webster’s New Collegiate Dictionary*, 9<sup>th</sup> ed.). The semantic description of what this process in Hendricks is actually called is unimportant. The importance lies in Hendricks not teaching pre-defined heuristic rules.

The Examiner then argues:

according to applicant's specification, there is no indication that the estimating of behavior ... is achieved from known fact of the individual or from other users' information. For example the specification does not teach how the system comes into conclusion that young men change channels more often than young women or how the household income is determined based on the number of zaps. (Office Action, p. 8)

The Examiner then quotes paragraph 116 of the specification in support of this contention. However, in the part of the specification quoted by the Examiner, at least one method for making these observations is explained: "FIG. 12A illustrates sets of logical heuristic rules that form part of the heuristic rules 460. In a preferred embodiment, **logical heuristic rules are obtained from sociological or psychological studies.**" Applicants' are confused as to how the Examiner can assert that "the specification does not teach how the system comes" to its conclusion, while at the same time quoting a precise example of where this information is obtained. Applicants respectfully submit that this passage describes precisely what the Examiner contends is absent from the specification. Accordingly, the Examiner's assertions with respect to Applicants' previous arguments are unfounded.

### **Patentability over Hendricks**

Claims 133-139 and claims 152-159 are rejected under 35 U.S.C. § 102 (e) as being anticipated by U.S. Patent No. 6,463,585 to Hendricks et al. ("Hendricks"). Applicants respectfully traverse this rejection.

Hendricks teaches a system for allowing targeted advertising to be directed to television terminals connected to an operations center or cable headend via a switched digital video network. Supplemental feeder channels are used to carry a plurality of advertisements that can be inserted into a viewing channel during an advertisement opportunity. Viewers are arranged according to a group assignment plan based upon factors such as area of dominant influence, ZIP code, and household income. A switching plan is used to determine whether to substitute the existing advertisement with an advertisement from a feeder channel, and if so, which feeder channel should be utilized. Hendricks describes the components responsible for selecting advertisements

based upon viewer-based data only as “correlation algorithms” which causes a “correlation of demographic information with buy information.” *See* Hendricks, column 44, lines 7-23 and column 69, line 61 – column 76, line 11.

For a rejection under § 102(e) to be proper, a reference must disclose, either explicitly or inherently, each and every element of the claimed invention. Applicants respectfully submit that Hendricks does not teach each and every element recited in independent claim 133.

Independent claim 133, recites:

A method of identifying consumers likely to be interested in an advertisement, the method comprising:

- (a) accessing a plurality of consumer transaction records corresponding to a plurality of consumers and accessing demographic information records corresponding to at least one of the plurality of consumers;
- (b) retrieving heuristic rules, wherein said heuristic rules have been pre-defined prior to accessing said plurality of consumer transaction records and **wherein said pre-defined heuristic rules have been developed based on at least one psychological or sociological study**;
- (c) retrieving at least one target consumer characteristic from an advertiser that has been selected at the discretion of the advertiser;
- (d) applying said pre-defined heuristic rules to said plurality of consumer transaction records to generate inferred transaction characteristics of the consumers;
- (e) generating inferred consumer characteristics of at least one of the consumers by associating the inferred transaction characteristics with demographic information records; and
- (f) determining applicability of an advertisement to the at least one consumer by correlating the inferred consumer characteristics with the target consumer characteristics selected at the discretion of the advertiser.

## **1. Hendricks does not teach the use of psychological or sociological studies**

The Examiner contends that Hendricks teaches “retrieving heuristic rules, wherein said heuristic rules have been pre-defined prior to accessing said plurality of consumer transaction records and wherein said pre-defined heuristic rules have been developed based on at least one psychological or sociological study” (citing col. 20, lines 35 – 48 and col. 66, line 53 – col. 67, line 4). At the outset, the Examiner emphasizes that, “the simulated profile algorithm *estimates the viewer’s age, education, sex and other relevant information.*” (Office Action page 4, quoting Hendricks, col. 66 line 60 – 64 (emphasis added by the Examiner)). However, this portion of Hendricks actually describes the results of applying a rule (e.g., an estimate of the viewer’s demographic information) rather than the rule itself that has been developed in a particular manner, as recited in independent claim 133 (“wherein … the heuristic rules have been **developed** based on at least one psychological or sociological study”). Based on the rest of the cited section of Hendricks, it appears that the Examiner is alleging that the “rule” in Hendricks that leads to this result was based on psychological and sociological studies, and therefore, qualifies as a heuristic rule that meets the language of independent claim 133. However, the rest of the quoted portion, as well as the entirety of Hendricks actually teaches nothing more than estimating a characteristic of one viewer based on “test information generated from a statistically significant number of viewers.” Despite the Examiner’s contention to the contrary, using “test information from a statistically significant number of viewers,” necessarily describes a system of collaborative filtering (or a similar system), where information internal to the system is aggregated and test information is generated once a significant amount of viewer information has been collected. In contrast, a “pre-defined heuristic rule [which has] been developed based on at least one psychological or sociological study,” as recited in independent claim 133, is a rule which has been developed from outside studies prior to the implementation of the system or application of the rule. As such, the Examiner’s contention that Hendricks’ application of “test information generated from a statistically significant number of viewers” is equivalent to a “pre-defined heuristic rule…developed based on at least one psychological or sociological study” is simply incorrect. Stated differently, Hendricks discloses neither

the development nor application of a heuristic rule. Furthermore, even if Hendricks could be read to teach a heuristic rule, Hendricks certainly does not disclose a rule that is based on a psychological or sociological study. Since Hendricks does not disclose either of these features, independent claim 133 is believed to be allowable over Hendricks.

## **2. Hendricks does not teach all elements of independent claim 153**

Although the Examiner argues that “claims 133-139 and **152-159** are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Hendricks,” the Examiner fails to provide any explanation as to how Hendricks anticipates independent claim 153. The Examiner alleges that each element of independent claim 133 is taught, but fails to do the same for independent claim 153. Furthermore, the Examiner acknowledges that Hendricks “does not explicitly teach wherein the heuristic rules have been developed through the application of at least one heuristic process which incorporates at least two types of analysis selected from the group consisting of exploration problem solving, self learning, discover, experiments, trial and error, inferences, educated guesses, market studies, human knowledge and experience,” as recited in independent claim 153 (Non Final Office Action p. 6). As such, the Examiner admits that Hendricks does not teach each and every element of claim 153.

Dependent claims 134-139, 152 and 154-159 are allowable at least by their dependency on independent claims 133 and 153, respectively. Reconsideration and withdrawal of the Examiner’s 102(e) rejections are respectfully requested.

### **Claim Rejections – § 103**

The Examiner has rejected claims 153-159 under 35 U.S.C. § 103(a) as being unpatentable over Hendricks in view of U.S. Patent No. 6,120,300 to Ho et al. (“Ho”). The Examiner contends that Hendricks teaches all of the elements of independent claim 153, with the exception of incorporating “at least two types of analysis selected from the group consisting of exploration problem-solving, self-learning, discovery, experiments, trial and error, inferences, educated guesses, market studies, human knowledge and experience.” The Examiner further contends that Ho teaches this feature, and that the

combination of Hendricks and Ho results in Applicants' claimed invention. Specifically, the Examiner argues that it "would have been obvious to one of ordinary skill in the art at the time of the invention for heuristic rules to be developed through application process which incorporates such type of analysis for the intended use to estimate user's demographic, preference or other relevant information as taught in Ho." Applicants respectfully traverse this rejection.

Ho teaches a "computer-aided educational system," where students are rewarded for attaining milestones in a particular subject area. These subject areas are broken into "line-items" of various difficulties. In each subject area these line-items act as milestones, wherein a student completes the line-item and they are given a reward. Various algorithms are used for determining when a milestone is achieved and what reward is offered.

Independent claim 153 recites:

A method of identifying consumers likely to be interested in an advertisement, the method comprising:

- (a) accessing a plurality of consumer transaction records corresponding to a plurality of consumers and accessing demographic information records wherein each demographic information record corresponds to a consumer transaction record;
- (b) retrieving heuristic rules, wherein said heuristic rules have been pre-defined prior to accessing said plurality of consumer transaction records and wherein said pre-defined heuristic rules have been developed through the application of at least one heuristic process which incorporates at least two types of analysis selected from the group consisting of logic tests, statistical estimates, self-learning, experiments, market studies, human knowledge and experience;
- (c) retrieving at least one target consumer characteristic from an advertiser that has been selected at the discretion of the advertiser;
- (d) applying said pre-defined heuristic rules to said plurality of consumer transaction records to generate inferred transaction characteristics of the consumers;

(e) generating inferred consumer characteristics of at least one of the consumers by associating the inferred transaction characteristics with a corresponding demographic information record of the consumer; and

(f) determining applicability of an advertisement to the at least one of the consumers by correlating the inferred consumer characteristics with the target market characteristics selected at the discretion of the advertiser.

## **1. Ho is not analogous prior art**

The MPEP states the “the Examiner must determine what is “analogous prior art” for the purposes of analyzing the obviousness of the subject matter at issue.” (MPEP 2141.01(a)). “A prior art reference is analogous if the reference is in the field of applicant’s endeavor or, if not, the reference is reasonably pertinent to the particular problem with which the inventor was concerned.” (MPEP 2149 IX quoting *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)). A reference can be pertinent if in a different field if “the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” (MPEP 2141.01(a) quoting *Wang Laboratories Inc. v. Toshiba Corp.*, 933 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993)).

It is quite clear that Ho is not “in the field of Applicants’ endeavor.” **MPEP 2141.01(a) states affirmatively that “class definitions are some evidence of “nonanalogy,” adding that the “function of the invention” carry greater weight.** **Here both** the USPTO’s class code system (Ho is in the “education and demonstration” class, whereas the present application is in the data processing: financial, business practice, management, or cost/price determination class) and the function of the invention based on a substantive reading of Ho suggest that Ho is not in the analogous and not in the same field of endeavor as the pending application. Under the standard Ho must have “logically ... commended itself to [the] inventor’s attention in considering his problem.” (MPEP 2141.01(a)). However, prior art directed to a “computer-aided educational system

and method for rewarding a student when the student attains a milestone in a subject,” (i.e., Ho; see Abstract) would not have logically “commended itself to [the] inventor’s attention,” while developing systems and processes in broadcast advertising. Ho, in its entirety, focuses on tracking students, determining milestones and granting students awards based on these milestones. Ho is not concerned with advertising or profiling and does not otherwise suggest that Ho’s system as a whole or any sub-system thereof would work or be desirable outside of the student or educational environment. Therefore, would Ho would not have “commended itself” to the inventor’s attention, and is not analogous to either Hendricks or Applicants’ application.

## **2. The combination of Hendricks and Ho does not teach every element of the claimed invention**

Even if Ho is analogous art, its combination with Hendricks still does not teach or suggest the method recited in independent claim 153. The Examiner concedes that Hendricks does not teach “retrieving heuristic rules, wherein said heuristic rules have been pre-defined prior to accessing said plurality of consumer transaction records and wherein said pre-defined heuristic rules have been developed through the application of at least one heuristic process which incorporates at least two types of analysis selected from the group consisting of logic tests, statistical estimates, market studies, human knowledge and experience.” Ho also does not teach this element.

Claim 153 recites that the heuristic process used to create the heuristic rule “incorporates at least two types of analysis....” Ho, on the other hand, only discusses **one basis** for heuristics. As the Examiner points out, Ho states that information about the preference of students “can be found through market research.” In Ho, the rule for assuming student preferences is based solely on “market research.” The method of independent claim 153, unlike Ho, necessarily takes into account several pre-existing factors to develop the heuristic rule, while Ho takes into account only market research.

Applicant respectfully points out that claim 153, unlike Ho, recites the use of statistical estimates in determining the pre-defined heuristic rules. Although Ho teaches that a “list can be heuristically determined by statistics based on the preferences of similar students,” such use of statistics is significantly different than the “statistical estimates” recited in claim 153. Unlike statistical estimates, statistics are unprocessed figures. This is exemplified by the recitation of “a heuristic rule [having] been developed through the application of at least one heuristic process,” incorporating statistical estimates.

Additionally, Ho does not apply heuristic rules in the manner of claim 153. In claim 153, the heuristic rules are applied “to said plurality of consumer transaction records to generate inferred transaction characteristics of the consumers.” In Ho, the rules are simply used to determine a list of rewards offered to a student. This is far from generating inferred transaction characteristics based on such rules.

Thus, Ho cannot be said to teach or suggest using pre-defined heuristic rules that, “have been developed through the application of at least one heuristic process which incorporates at least two types of analysis selected from the group consisting of logic tests, statistical estimates, self-learning, experiments, market studies, human knowledge and experience.” Accordingly, even if Hendricks and Ho are properly combinable, which they are not, such combination still does not yield all aspects of independent claim 153.

Dependent claims 154-159 are allowable at least by their dependency on independent claim 153. As such, reconsideration and withdrawal of the Examiner’s 103(a) rejections are respectfully requested.

***Conclusion***

In view of the foregoing amendments and remarks, Applicants respectfully submit that the Examiner's rejections have been overcome, and that the application, including claims 133-139 and 152-159, is in condition for allowance. Reconsideration and withdrawal of the Examiner's rejections and an early Notice of Allowance are respectfully requested.

Respectfully submitted,

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